

Claims

1. A surgical instrument, comprising:
 - an end effector;
 - a shaft including an articulation motion transfer member;
 - an articulation mechanism responsive to the articulation motion and pivotally coupling the end effector to a distal end of the shaft; and

5 an articulation control coupled to a proximal portion of the shaft, comprising:
 - an actuator laterally positionable by a user,
 - a motion conversion mechanism coupled to the actuator and to the articulation mechanism and operably configured to convert a lateral motion from the

10 articulation control to an articulation motion.

- 2. The surgical instrument of claim 1, wherein the articulation control further comprises a longitudinal control rod coupled the end effector at an attachment offset from a pivot axis of the articulation mechanism, wherein the motion conversion mechanism is operably configured to convert the lateral motion to a longitudinal motion.

- 3. The surgical instrument of claim 2, wherein the motion conversion mechanism comprises a gear means for coupling the lateral movement to the longitudinal motion.

- 4. The surgical instrument of claim 2, wherein the motion conversion mechanism comprises:
 - a lateral gear rack coupled to the articulation control;
 - a gear engaged to the gear rack of the articulation control; and

5 a longitudinal gear rack coupled to the longitudinal control rod and engaged to the gear.

- 5. The surgical instrument of claim 1, wherein the shaft further comprises an articulation drive tube transferring the articulation motion as a rotational motion to the articulation mechanism.

6. The surgical instrument of claim 5, wherein the motion conversion mechanism comprises a gear means for coupling the lateral movement to the rotational motion.
7. The surgical instrument of claim 5, wherein the motion conversion mechanism comprises a lateral gear rack coupled to the articulation control and the articulation drive tube includes a gear section engaged to the lateral gear rack.
8. The surgical instrument of claim 7, wherein the motion conversion mechanism further comprises a backdrive lockout mechanism coupling the articulation control to the lateral gear rack.
9. The surgical instrument of claim 8, wherein the backdrive lockout mechanism comprises:
 - a frame having a window;
 - a lockout member laterally locked into position with the window of the frame and5
 - coupled to the lateral gear rack; and
 - a deflection member coupled to the articulation control and positioned to disengage and to laterally position the lockout member.
10. The surgical instrument of claim 8, wherein the backdrive lockout mechanism comprises a means for preventing transferring motion from the articulation drive tube to the articulation mechanism.

11. A surgical instrument, comprising:
- a shaft configured to independently transfer an actuating motion, and a rotational motion about a longitudinal axis thereof;
 - an end effector responsive to the actuating motion;
- 5 an articulation mechanism responsive to the rotational motion to articulate the end effector from the longitudinal axis of the shaft;
- a handle portion coupled to the shaft operably configured to produce the actuating motion;
 - a lateral articulation control laterally positionable by a user and operably configured
- 10 to produce the rotational motion.
12. The surgical instrument of claim 11, wherein the lateral articulation control further comprises a backdrive lockout mechanism.

13. A surgical instrument comprising:
- a handle portion operable to produce a firing motion, a closing motion, and an articulation motion;
 - a shaft coupled to the handle portion operable to separately transfer the firing motion, the closing motion, and the articulation motion;
 - 5 an elongate channel coupled to the shaft;
 - an anvil pivotally coupled to the elongate channel, responsive to the closing motion from the shaft;
 - a firing device including a distally presented cutting edge longitudinally received between the elongate channel and the anvil;
 - 10 an articulation mechanism pivoting the elongate channel from the shaft in response to the articulation motion; and
 - a lateral articulation control laterally positionable by a user and operably configured to produce the articulation motion.
14. The surgical instrument of claim 13, wherein the lateral articulation control further comprises a backdrive lockout mechanism.

15. A surgical instrument, comprising:
- a shaft defining a longitudinal axis of the surgical instrument;
 - an end effector movable from a first position in alignment with said longitudinal axis to a second position at an angle with said longitudinal axis;
 - 5 a rotatable member operably coupled with said end effector such that rotation of said member moves said end effector from said first to said second position; and
 - a lateral control member moveable laterally to said longitudinal axis and operably coupled to said rotatable member, wherein lateral movement of said lateral control member moves said end effector from said first to said second position.